

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
11 August 2005 (11.08.2005)

PCT

(10) International Publication Number  
**WO 2005/072171 A2**

(51) International Patent Classification: Not classified

(21) International Application Number:  
PCT/US2005/001452

(22) International Filing Date: 18 January 2005 (18.01.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/539,816 28 January 2004 (28.01.2004) US

(71) Applicant (for all designated States except US): HH  
TECHNOLOGIES, INC. [US/US]; P.O. Box 99, 1733  
County Road 68, Bremen, AL 35033 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): JENKINS, Lesley,  
Ray [US/US]; 406 Section Line Road, Hanceville, AL  
35077 (US). DANIELS, Waymon, Neal [US/US]; 2291  
Shiloh Fort Lamar Road, Danielsville, GA 30633 (US).

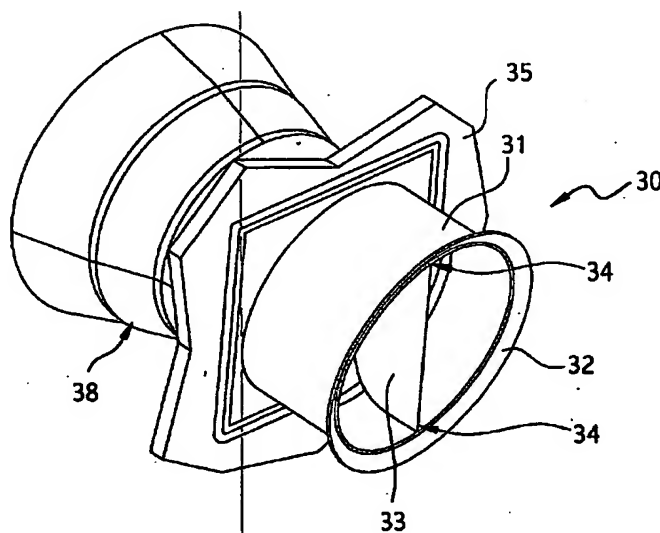
(74) Agent: BUSH, Kenneth, M.; Buch Intellectual Property  
Law Group, LLC, P.O. Box 381146, Birmingham, AL  
35238 (US).

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,  
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,  
GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: VERTICAL DOOR FAN SHUTTER



(57) Abstract: A fan shutter having one end attachable to an exhaust fan and the opposite inlet end having a pair of vertical doors that are biased to close when the fan is off and to open by the force of vacuum when the fan is on. The use of vertical doors prevents the accumulation of dust and dirt on the doors. The vertical doors pivot horizontally in a housing that may have any desired shape, including a tubular shape with a bell mouth. The tubular bell mouth shutter design further provides improved air flow characteristics and decreased stress on the exhaust fan, compared to conventional fan shutters.

WO 2005/072171 A2



**Published:**

— without international search report and to be republished upon receipt of that report

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*